**ITEM NO. 1**

**PUBLIC UTILITY COMMISSION OF OREGON**
**STAFF REPORT**
**SPECIAL PUBLIC MEETING DATE: May 7, 2020**

**REGULAR __X__ CONSENT ____ EFFECTIVE DATE _____Upon Approval_____**

**DATE:** April 17, 2020

**TO:** Public Utility Commission

**FROM:** Rose Anderson

**THROUGH:** Bryan Conway and JP Batmale **SIGNED**

**SUBJECT:** PACIFIC POWER
(Docket No. LC 70)
Staff Final Report on PacifiCorp's 2019 Integrated Resource Plan.

**STAFF RECOMMENDATION:**
Acknowledge in part and decline to acknowledge in part PacifiCorp's (Company or PAC) 2019 Integrated Resource Plan (IRP). Commission Staff (Staff) recommends certain actions and additional requirements for inclusion in future resource acquisitions and future IRPs.

**DISCUSSION:**

Issue
Whether the Commission should acknowledge PacifiCorp's 2019 Action Plan and Integrated Resource Plan, acknowledge specific portions of the IRP with or without certain conditions, or decline to acknowledge the IRP.

Applicable Law or Rule
The Commission adopted least-cost planning as the preferred approach to utility resource planning in 1989.[1] In 2007, the Commission updated its existing least-cost planning principles and established a comprehensive set of "IRP Guidelines" to govern the IRP process. The IRP Guidelines found in Order Nos. 07-002 (corrected by 07-047), 08-339, and 12-013 clarify the procedural steps and substantive analysis required of Oregon's regulated utilities in order for the Commission to consider acknowledgement of a utility's resource plan.[2]

[1] Order No. 89-507.
[2] Order Nos. 07-002 and 07-047. Additional refinements to the process have been adopted: See Order No. 08-339 (IRP Guideline 8 refined to specify how utilities should treat carbon dioxide (CO2) risk in their

The IRP Guidelines and Commission rules (OAR 860-027-0400) require a utility to file an IRP with a planning horizon of at least 20 years within two years of its previous IRP acknowledgment order, or as otherwise directed by the Commission.[3] Further, the IRP must also include an "Action Plan" with resource activities that the utility intends to take over the next two to four years.[4] The utility's IRP should satisfy the IRP Guidelines and Commission rules for its determination of future long-term resource needs, its analysis of the expected costs and associated risks of the alternatives reviewed to meet its future resource needs, and its near-term Action Plan to achieve the IRP goal of selecting the "portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers."[5] This is often referred to as the "least cost/least risk portfolio."

The Commission reviews the utility's plan for adherence to the procedural and substantive IRP Guidelines and generally acknowledges the overall plan if it is reasonable based on the information available at the time.[6] However, the Commission explains: "We may also decline to acknowledge specific action items if we question whether the utility's proposed resource decision presents the least cost and risk option for its customers."[7] The Commission may also provide direction on additional analysis or actions for the next IRP or IRP Update.[8]

Also applicable to review of PacifiCorp's 2019 IRP is whether it complies with all of the Commission requirements in its previously acknowledged IRP. In addition to IRP Guideline compliance, Staff reviews whether PacifiCorp has complied with the Commission's order in LC 67.

IRP analysis); Order No. 12-013 (guideline added directing utilities to evaluate their need and supply of flexible capacity in IRP filings).

[3] Order No. 07-002 (Guidelines 1(c) and 3(a)) and OAR 860-027-0400.

[4] Order No. 14-415 at 3.

[5] Order No. 07-002 at 1-2.

[6] Id. at 1.

[7] Id.

[8] OAR 860-027-0400(7), (10).

Analysis

*Procedural History*
Prior to filing its IRP, PacifiCorp held several public input meetings, beginning in June 2018 and provided written responses to stakeholder feedback comments. On October 18, 2019, PacifiCorp filed its 2019 IRP. PacifiCorp presented its IRP to the Commission at a public meeting on December 17, 2019.

Staff and intervenors filed opening comments on January 10, 2020. Opening Comments were submitted by Staff and:

- Alliance of Western Energy Consumers (AWEC);
- Northwest Energy Coalition (NWEC);
- Northwest and Intermountain Power Producers Coalition (NIPPC);
- Oregon Citizens' Utility Board (CUB);
- Renewable Energy Coalition (REC);
- Renewable Northwest (RNW);
- Sierra Club; and
- Swan Lake North Hydro, LLC (Swan Lake).

PacifiCorp filed its Reply Comments on February 5, 2019. The Company, Staff, and intervenors participated in a general discussion at a Commission workshop on February 13, 2020. On March 4, 2020, Final Comments were filed by Staff, AWEC, City of Portland, CUB, Multnomah County, NWEC, NIPPC, CUB, REC, RNW, and Sierra Club.

A second workshop was conducted by the Commission on March 10, 2020, primarily for the discussion of the new resource and transmission categories in PacifiCorp's action plan. On April 1, 2020, PacifiCorp filed its Final Reply Comments, which included modifications to its Action Plan.

Staff files this memorandum in advance of the May 7, 2020, Special Public Meeting. Staff makes its recommendations for acknowledgement based on the level of information currently available through discovery, comments, and workshop discussions. Where Staff finds concepts promising, but lacking certainty, it does not recommend acknowledgement or provides recommendations for conditions that may reduce the level of exposure for customers if the Company choses to proceed.

*Action Plan*

| Category | 2019 Action Plan Item Summaries | Staff Recommendation |
|---|---|---|
| Existing Resources | 1a – Naughton Unit 3 conversion by 2020. | Acknowledge |
| | 1b – Cholla Unit 4 retirement by 2023, earlier if possible. | Acknowledge |
| | 1c – Jim Bridger Unit 1 retirement by end of 2023. | Acknowledge |
| | 1d – Naughton 1-2 retirement by end of 2025. | Acknowledge |
| | 1e – Craig Unit 1 retirement by end of 2025. | Acknowledge |
| New Resources | 2a – Request for Proposals (RFP) to secure resources for customer preference (voluntary green) programs. | Acknowledge with conditions |
| | 2b – Issue an all-source RFP by end of 2023. | Acknowledge with Conditions |
| Transmission | 3a – Energy Gateway South (EGS) built by end of 2023. | Acknowledge with conditions |
| | 3b – Utah Valley reinforcements as necessary to facilitate customer-preference resource interconnection. | Acknowledge with conditions |
| | 3c – Northern Utah reinforcements<br>• Rebuild two miles of Morton Court 138 kV line<br>• Loop Populus-Terminal 345 kV line into Bridgerland and Ben Lomond, build 345 kV yard and ancillary circuit breakers.<br>• Complete plan of service in time to support resource acquisitions from 2019 IRP in region. | Acknowledge with conditions |
| | 3d – Utah South reinforcements<br>• Complete rebuild of Mona- Clover lines #1 and #2.<br>• Identify route and terminals for 70-mile 345 kV line.<br>• Develop plan of service to support new resources in southern Utah. | Acknowledge with conditions |
| | 3e – Yakima WA reinforcements | Acknowledge with conditions |

| Category | 2019 Action Plan Item Summaries | Staff Recommendation |
|---|---|---|
| | • Facilitate interconnection of preferred portfolio resources with upgrades to local substations.<br>• Complete Vantage-Pomona Heights 230 kV line.<br>• Establish type and location of new resources. | |
| | 3f – Continue to support Boardman-to-Hemingway (B2H) process. | Acknowledge |
| | 3g – Energy Gateway West<br>• Segment D.2 completed by end of 2020.<br>• Continue permitting and funding plans for Segments D.3 and E. | Do not Acknowledge |
| Demand Side Management (DSM) | 4a – Acquire all cost-effective Class 2 DSM, per Appendix D, Volume II, and Class 1 DSM in Utah. | Acknowledge with conditions |
| Front Office Transaction | 5a – Acquire short-term firm market purchases and balance trading through competitive exchange and bilateral transactions when prompted. | Acknowledge |
| Renewable Energy Credit Actions | 6a – Secure unbundled Renewable Energy Credits (RECs) for compliance. | Acknowledge |
| | 6b – Maximize the sale of RECs. | Acknowledge with conditions |

*Staff Findings and Recommendations*
Staff has appreciated the work by the Company and stakeholders during the IRP development and review processes in providing both an informative long-term PacifiCorp resource plan and in providing feedback for the Company on that plan. Staff's final recommendations in this Staff Report focus on the near-term action items, but also provide some recommended guidance for the Company in the development of its 2021 IRP. Staff has focused on recommendations that help make sure the 2020 All Source RFP (2020AS RFP) and other near-term actions are acknowledged only under certain conditions that help establish that the actions are in the best interests of ratepayers.

**1. RFP Action Items 2a and 2b, Customer Preference RFP and All-Source RFP**

**PacifiCorp's Analysis**

PacifiCorp's RFP Action Item 2b in the 2019 IRP reflects its plan to hold an all-source RFP in 2020 that uses the 2019 IRP portfolio analysis methodology to select generation and transmission resources to add to PacifiCorp's system.

PacifiCorp's 2019 IRP and subsequent Reply and Final Comments explain that the 2020AS RFP reflects a least cost, least risk opportunity for ratepayers to benefit from the Production Tax Credit and Investment Tax Credit before their expected expiration.

PacifiCorp's Action Plan also includes an RFP Action Item 2a to procure about 240 MW of customer preference resources in Utah.

**Stakeholder Positions**

*AWEC*

AWEC's Opening Comments recommend the Commission decline to acknowledge the Company's Action Item for an All-source RFP, expressing concerns with lack of specificity and lack of an identified need for new resources. In Final Comments, AWEC reiterates its recommendation for non-acknowledgement on the basis that the resource acquisition in the preferred portfolio action plan timeframe is the result of an "uncertain projection of economic benefits," and not a response to an identified resource need.

*Sierra Club*

In Opening Comments, Sierra Club raises several concerns and issues:

- Concerns about the lack of specificity in the all-source RFP action item;
- A recommendation that PacifiCorp's IRP and RFP processes become more integrated, with the IRP reflecting actual RFP bids;
- A recommendation for increased transparency and stakeholder participation in the RFP;
- A recommendation that PacifiCorp be required to explain any substantial deviations from the preferred portfolio in the RFP; and
- A recommendation that the RFP include the potential for new coal resource retirements.

In final comments, Sierra Club reiterates its concerns about acknowledging transmission action items that are dependent on the outcome of an RFP.

*NIPPC*
NIPPC's Opening Comments express concern at the lack of RFP details filed in PacifiCorp's IRP, and recommend that PacifiCorp should file RFP details in its Independent Evaluator (IE) docket. NIPPC also recommends the Commission "clarify and confirm" that long-lead-time resources satisfy the requirements for an exception to the competitive bidding rules.

*Swan Lake*
In Opening Comments, Swan Lake questions whether PacifiCorp's RFP would allow for acquisition of long-lead-time resources such as pumped hydro storage, and suggests that PacifiCorp could seek a waiver to the competitive bidding rules to accommodate long-lead-time resources.

*Renewable Northwest*
In Opening Comments, RNW indicates support for a competitive RFP, and appreciation for queue reform designed to line up with the 2020 RFP.

In Final Comments, RNW expresses optimism that despite Staff's concerns about the lack of specificity in PacifiCorp's RFP Action Item, an RFP could identify resources that are even more cost effective than those selected in the IRP. RNW's Final Comments also expressed concern that PacifiCorp's plan for RFP acknowledgement in September 2021 could prevent PacifiCorp from leveraging the full benefit of the PTC, and recommended keeping the RFP timeline on track or even advancing some deadlines.

*NWEC*
NWEC's Opening Comments encourage PacifiCorp to develop a separate RFP for flexible demand response resources. In final comments, NWEC cautions that the beginning of the RFP for new resources before the IRP acknowledgement decision should not become 'the new normal.' NWEC offers suggestions for better aligning the IRP and resource acquisition cycles, including issuing a 'request for quotations' to inform the IRP process.

*Multnomah County*
Multnomah County's Final Comments recommend that PacifiCorp's RFP seek only non-emitting resources, and that PacifiCorp should explore in its 2021 IRP how community-based resources can meet system needs, including microgrids and distribution-level resources. Multnomah also expresses eagerness to work with PacifiCorp to develop a program similar to Utah's HB 411 to help meet community renewable energy goals through new resource acquisitions.

*CUB*
CUB expresses concern in Final Comments that the RFP action item is too broad and unclear and should include a maximum limit on energy and capacity. CUB recommends acknowledgement of the RFP action item.

**Staff Position**
In Opening Comments, Staff recommends PacifiCorp submit an updated action item that includes approximate amounts of energy or capacity the Company expects to procure in the 2020AS RFP.

Staff additionally suggests that, because the Company has not indicated its Front Office Transaction (FOT) resources may be unreliable, resource need in the IRP can be defined as the time when PacifiCorp's load plus planning reserve margin exceeds its capacity resources plus assumed available FOTs.

In Final Comments, Staff again requests the Company update its RFP action item, this time requesting the action item be updated to add a limit of no more than 110 percent of the cost or capacity of resources identified in the preferred portfolio, as well as the extension of the PTC until 2024.

Staff additionally recommends the 2020AS RFP include a separate category for resources scheduled to come online from 2024 to 2027, with greater consideration given to non-emitting, flexible capacity resources.

**PacifiCorp Position**
In Reply Comments, PacifiCorp pushes back against AWEC's and Staff's assertion that the 2019 IRP does not identify a near-term resource need, stating that the acquisition of new resources to displace market purchases of energy allows the Company to reduce cost and risk for customers.

To address Staff's request to make the RFP Action Item more specific in terms of cost and capacity, PacifiCorp states that it will include a target amount of procurement in its RFP, which will use modeling methodology consistent with that in the IRP.

In Final Comments, PacifiCorp responds to AWEC's and Staff's concerns about resource need by explaining that in IRP analysis, FOTs are a resource planning tool to "represent how much capacity the Company wishes to leave 'open' or not firm."[9]

[9] PacifiCorp's Final Comments in Docket No. LC 70. Page 7.

PacifiCorp states that its resource need is based on the amount of firm capacity it has available, and not on the amount FOTs assumed to be available.

In response to concerns about long-lead-time resources, PacifiCorp states that it will allow these resources to be considered within the 2020AS RFP, without requiring a waiver as considered previously.

PacifiCorp also agrees in Final Comments to update its RFP action item to reflect the new 2024 PTC deadline, but does not choose to implement Staff's recommendation to file a more specific RFP Action Item.

**Staff Recommendations**

Staff's final recommendations on the two RFP action items are as follows:

### 1.1 Action Item 2a: Customer preference RFP

Staff greatly appreciates the inclusion of customer preference sensitivities to assess no-customer-preference and high-customer-preference futures in the 2019 IRP. Yet, Staff finds that more transparency will be essential to the implementation of customer preference resource acquisitions in a way that does not harm ratepayers. PacifiCorp has filed two notices of exception to the competitive bidding rules in order to acquire resources for customer preference customers in Docket No. LC 70. The Company stated that each of these resources was a "time-limited opportunity to acquire a resource of unique value to the electric company's customers." However, the amount of analysis and workpapers presented to Staff was limited.

Staff filed comments on PacifiCorp's notice of exception filed September 27, 2019, in Docket No. LC 70. Staff's comments expressed concern about the use of notices of exception to acquire customer preference resources. Staff has since engaged in discussion with PacifiCorp about customer preference resources, and finds that acknowledgement of the customer preference RFP is reasonable, under the condition that PacifiCorp provides a report to the Oregon Commission on the RFP and provides workpapers in Docket No. LC 70 for any analysis performed in the RFP, as well as the calculation of any change in customer rates associated with resources acquired under the RFP.

Additionally, Staff recommends that PacifiCorp provide workpapers demonstrating how customer preference resources are selected and how customer rates are calculated to accompany any notices of exception to the RFP rules for these resources. This level of transparency will be a necessary first step moving forward toward ensuring that customer preference programs are not creating additional costs for PacifiCorp's other customers.

**Recommendation:**

- **Acknowledge Action Item 2a subject to the condition that PacifiCorp file all relevant workpapers for resource acquisition and rate setting in the customer preference RFP with the Oregon Commission in Docket No. LC 70, 60 days before the acquisition is complete.**

- **Require that, before the next IRP is filed, PacifiCorp file the resource acquisition and rate setting workpapers in Docket No. LC 70 for any customer preference resources acquired using a notice of exception to the Competitive Bidding Rules, 60 days before the acquisition is complete.**

### 1.2 Action Item 2b: All-source RFP

The all-source RFP appears to be a reasonable plan, as long as the inputs and assumptions about resource costs in the Company's models are accurate. After thoroughly vetting PacifiCorp's resource cost assumptions, Staff finds one assumption subject to enough uncertainty that more analysis is required.[10] The market price forecast is subject to change based on PacifiCorp's resource acquisitions, however these effects have not yet been assessed. Before PacifiCorp requests acknowledgement of the RFP final shortlist with any RFP shortlist bidders, Staff recommends that PacifiCorp produce the following analyses and present them to the Commission, as well as filing workpapers in Docket Nos. LC 70 and UM 2059:

1. Analysis of the impact on the preferred portfolio from a change in market prices:
    a. A forecast of market prices for each market hub in the 2019 IRP based on a new Western Electricity Coordinating Council (WECC) capacity expansion buildout in Aurora that assumes all resources in the 2019 IRP preferred portfolio through 2024 will be constructed.
    b. A portfolio analysis in System Optimizer (SO) that uses the coal retirement dates from the 2019 IRP preferred portfolio and the WECC market price forecasts developed in number (1) above.
    c. A portfolio analysis in SO that uses the coal retirement dates from the 2019 IRP preferred portfolio and the WECC market price forecasts

[10] Staff appreciates PacifiCorp's explanation in its Final Comments that its gas price forecast is not out of line with that from the NW Natural IRP.

developed in number (1) above, but assumes all resources in the 2019 IRP preferred portfolio through 2024 will be constructed.

2. Analysis of the impact on the preferred portfolio from a more substantial change in market prices:
   a. A forecast of market prices for each market hub in the 2019 IRP based on a high renewable WECC buildout, similar to the WECC buildout used by PGE in the 2019 IRP in Docket No. LC 73.[11]
   b. A portfolio analysis in SO that uses the coal retirement dates from the 2019 IRP preferred portfolio and the WECC market price forecasts developed in number (2) above.

PacifiCorp should report the:

1. WECC-wide resource buildouts for 1(a) and 2(a) both before and after adding RPS resources,[12]
2. Market price forecasts resulting from 1(a) and 2(a),
3. Resource selection of both transmission and generation through 2024 in the portfolios generated in 1(b) and 1(c), and
4. NPVRR of portfolios produced in 1(b), 1(c), and 2(b).

**Recommendation:**

**Acknowledge the 2020AS RFP subject to the conditions that:**

- **PacifiCorp perform and report its analysis as described in this section above.**

- **The RFP results in the procurement of no more than 110 percent of the resources selected to come online before 2024 in the preferred portfolio, with the exception of any long-lead-time resources, which should not exceed 110 percent of the amount of resources chosen from 2024 to 2027 in the preferred portfolio.**

[11] PGE 2019 Integrated Resource Plan. Page 350.
[12] See Staff DR 164 for a description of how PAC adds RPS resources to Aurora's WECC buildout.

- **The RFP initial and final shortlist analysis include an informational sensitivity that uses the same analysis as the RFP, except utilizes the updated Aurora price forecast from 1a.**

**1.3 COVID Impacts**

Given the uncertainty around the continuing economic impacts of COVID 19, Staff requests PacifiCorp be prepared to discuss at the acknowledgement decision meeting any potential changes to the RFP schedule that could result if the COVID 19 economic disruption continues. Staff requests the company include a discussion of possible long-term load impacts as well as the potential for disruptions to the procurement process of PTC and ITC eligible resources. Additionally, Staff requests PacifiCorp discuss whether it would be possible to delay the RFP to allow bidders to join the prospective cluster study, rather than the transition study, if needed.

**Recommendation:**

- **At the LC 70 acknowledgement decision meeting, PacifiCorp should discuss potential COVID impacts to the procurement process and load forecast, and any potential adjustments in response.**

**2. Transmission Action Items, Energy Gateway South (EGS), and Endogenous Transmission Selection**

**PacifiCorp's Analysis**

PacifiCorp's 2019 IRP allows specific transmission resources, including EGS, to be selected by its capacity expansion model for the first time. PacifiCorp's Action Plan contains several transmission projects, some of which are contingent upon the outcome of the 2020AS RFP.

**Stakeholder Positions**

*AWEC*

In Opening Comments, AWEC suggests that if the Commission is to acknowledge EGS, PacifiCorp would first need to provide a justification for EGS, other than delivering PTC wind acquired through an uncertain RFP. AWEC notes that acknowledgement could be justified in an IRP update if EGS is selected in an RFP.

In Final Comments, AWEC reiterates that PacifiCorp should provide further justification for EGS that does not depend on preferred portfolio resources before acknowledgement of EGS can be justified.

*Sierra Club*
Sierra Club's Opening Comments recommend that the Commission not acknowledge PacifiCorp's transmission action items that are dependent on the outcome of an RFP, including Northern Utah reinforcements and EGS.[13] Sierra Club also recommends the Commission ensure the RFP considers transmission expenditures as new, incremental costs and not as pre-existing costs.

In Final Comments, Sierra Club reiterates that the Commission should not acknowledge any transmission Action Items except as contingent upon their inclusion in the RFP outcome. Sierra Club again cautions that transmission costs associated with new generation should be treated as new, incremental costs in the RFP and not as sunk costs. Sierra Club mentions that the transmission costs of RFP bids could be decreased if developers are able to utilize distributed generation, distributed storage, or demand-side management.

*CUB*
In Final Comments, CUB expresses support for Staff's concerns about endogenous selection of transmission projects including Boardman to Hemingway (B2H) in PacifiCorp's IRP modeling, and concerns about the apparent prioritization of EGS over B2H. CUB requests PacifiCorp provide more explanation why it could not negotiate an earlier start date for B2H with Idaho Power, and states a recommendation for non-acknowledgement of EGS.

*NWEC*
In Opening Comments, NWEC expresses support for Yakima, WA transmission upgrades and no position on other transmission upgrades. NWEC expresses concern that PacifiCorp's financial benefits associated with installing new transmission could put non-wires alternatives at a disadvantage, and asks whether "careful portfolio development and sequencing of new renewable acquisition, coal retirement and enhanced demand side management can defer or avoid new transmission builds." NWEC asks whether the need could be deferred for both EGS and B2H. NWEC also discusses Energy Gateway West, and notes that the potential small modular nuclear project in southeast Idaho could take a significant portion of the capacity on Gateway West, even while Gateway West is shown to be an important step in achieving the full potential benefits of B2H. NWEC expresses support for moving toward a co-

[13] Sierra Club Opening Comments in Docket No. LC 70. Page 5.

optimization approach for transmission and generation, as demonstrated in PacifiCorp's IRP.

In Final Comments, NWEC reiterates its support for consideration of non-transmission alternatives including "(1) end-use efficiency; (2) end-use demand response; (3) generation alternatives, including distributed generation; (4) transmission system capability and efficiency improvements within existing corridors; and (5) storage technologies, such as batteries and electric and plug-in hybrid\electric vehicles." NWEC suggests the 2021 IRP should include a comprehensive approach to non-transmission alternatives, using optimized strategies to look at the potential to defer transmission investments.

**Staff Position**

*Opening Comments*

In Opening Comments, Staff expresses concern that only one in-service date was considered for Energy Gateway segments E (Populus to Hemingway) and H (B2H), and that the IRP did not consider 2024 in-service dates for B2H to coincide with PTC expiration. Staff asks for further analysis of the impact of changes in the timing of energy gateway resources.

Regarding EGS, Staff expresses concern that it may be receiving favorable treatment in the IRP, with cost reductions and modeling changes seeming to favor the selection of this line. Staff suggests that building the shorter B2H line could create savings as compared to the 400 mile EGS line. Staff asks for analysis demonstrating the specific benefits of EGS that make it apparently more cost effective than B2H, and requests more information on why B2H could not be selected endogenously in the model in the same way as EGS. Staff points to the Northern Tier Transmission Group (NTTG) study that assumed B2H would be built before any other Energy Gateway projects.

*Final Comments*

In Final Comments, Staff expresses further concern that the potential benefits of delaying EGS may not have been accounted for in the IRP. Staff requests more information about why the preferred portfolio chooses to construct EGS plus Wyoming wind, instead of choosing geographically diverse resources that do not require the 400 mile line, when PacifiCorp has demonstrated in its LC 70 PTC update of February 12, 2020, that at least 2,000 MW of geographically diverse wind is available. Staff questions why PacifiCorp would sign interconnection contracts that assume retail customers will pay for EGS before the line has been acknowledged in an IRP.

Staff requests more information about federal requirements to build transmission such as EGS for interconnection and transmission customers, as well as information about the potential to renew BLM contracts for EGS to allow it to safely be deferred until a later date. Staff requests that PacifiCorp should demonstrate the benefits of EGS before approval of any future RFP shortlist.

Staff requests a clear outline of total transmission costs in the Action Plan, as well as a detailed breakdown of transmission costs by transmission Action Item, including whether each Action Item is contingent on selection in an RFP.

Staff recommends that substantially complete transmission Action Items included in the 2019 Action Plan are not appropriate for an action plan, and requests the Company update its Action Plan to remove these items.

Finally, Staff requests PacifiCorp address the possibility of Segment D.1 being selected as an additional transmission item in the RFP.

**PacifiCorp Position**

*Opening Comments*

In response to parties' concerns about the acknowledgement of transmission Action Items before they are selected in an RFP, PacifiCorp states that AWEC is encouraging the Company to ask for acknowledgement of a transmission project after the project is acquired, which runs counter to planning principles. The Company states that EGS is a part of its least cost, least risk portfolio and should be acknowledged. Additionally the Company states that selection of EGS in the RFP will be what determines whether the EGS project is pursued, not IRP acknowledgement in and of itself.

In response to Staff's recommendation to include a scoring metric in the RFP for performance in the most probable Energy Gateway transmission future, the Company explains that it does not currently support the addition of a scoring metric dependent on uncertain future projects.

PacifiCorp responds to Staff's question of why B2H did not show benefits for PacifiCorp customers, despite being shown to be important to the region as a whole by 2026, by explaining that the NTTG analysis is much broader in regional scope than the PacifiCorp IRP, and looks at transmission reliability, not just the ability of PacifiCorp to deliver load to customers.

The Company responds to Staff's question about any legal requirement to build EGS by explaining that the Company's legal requirement to provide non-discriminatory access to transmission service is indeed part of its determination of the need for EGS.

The Company explains that the Utah reinforcements associated with EGS are necessary for maintaining compliance with NERC standards if EGS is built.

In response to Staff's concerns about whether Oregon customers will see the benefits of EGS, PacifiCorp explains that because it operates as a system, the benefits of EGS will be shared amongst all customers without the need for EGS to specifically facilitate energy transfers to Oregon. PacifiCorp explains that eventually, both B2H and Segment E of Energy Gateway will be required to transfer renewable energy to the West. For the amount of renewables that can be transferred from East to West to increase, PacifiCorp explains, new transmission must be constructed from Jim Bridger to Hemingway, which amounts to 767 miles of transmission, in addition to B2H.

PacifiCorp states that it is unable to comment on the possibility of completing B2H in 2024 because Idaho Power is the B2H project sponsor.

Finally, PacifiCorp provides more information on the recent FERC Order rejecting a request to move to a new regional transmission planning process, explaining that the request has been re-filed with FERC, and if approved, it will not change how projects are proposed into the regional plan.

*Final Comments*
In Final Comments, PacifiCorp responds to Staff's request for total transmission costs in the Action Plan with an estimate of $2.2 billion.

PacifiCorp provides more explanation of the reason for the different priorities and outcomes between the IRP and the NTTG plan, noting that the NTTG study is "a reliability analysis performed for the NTTG footprint to meet the regional planning requirements of Federal Energy Regulatory Commission (FERC) Order 1000," while the IRP identifies transmission projects to support PacifiCorp's resource needs.

The Company advises that EGS should not be delayed, stating that Staff's analysis of delaying EGS until 2030 does not consider the transmission costs of alternatives to Wyoming wind plus EGS, while the Company's analysis does consider these costs. The Company states that resources not selected in the 2019 IRP preferred portfolio were not cost-competitive. With regard to Staff's request for analysis to demonstrate the resources that would be chosen if EGS were delayed until 2030, the Company states that previous analysis done for the Utah PSC and included in PacifiCorp's Final Comments is responsive to this request.

The Company responds to Staff's question about the possibility of renewing the EGS Bureau of Land Management (BLM) permit by reiterating its concern that the EIS for EGS could be determined to be stale at some point in the future, requiring 8-12 years and $10-15 million to renew. Additionally, the Company explains that the cost reductions of 'guyed v' towers that were identified for EGS would not be available for B2H because they were not allowed by BLM in the Environmental Impact Statement (EIS) process.

The Company also provided information regarding the per MWh costs of several different projects that qualify for the PTC before 2024, and explained that the information and associated graph demonstrate why EGS plus WY wind is more cost effective than other options.

Regarding Staff's request that PacifiCorp demonstrate that final shortlist projects provide savings that are greater than the added NPVRR cost of installing EGS in the near-term instead of waiting, PacifiCorp argues that this is unnecessary and redundant because the IRP modeling in the RFP will include costs and benefits of resources.

Regarding any legal requirements to build transmission for Wyoming interconnection customers, PacifiCorp explains that it would be "unrealistic to assume that PacifiCorp transmission would not be obligated to construct any transmission systems out of eastern Wyoming" since PacifiCorp already has interconnection queue and transmission queue service requests, as well as executed interconnection contracts, that are contingent on EGS. PacifiCorp explains that rather than letting its "legal requirements" drive the construction of EGS, it has demonstrated EGS provides benefits to retail customers.

Regarding payment options for EGS, the Company explains that necessary transmission system upgrades 'are paid for upfront by the utility and rolled into transmission rate base.' Interconnection service request upgrades, however, are paid for by the interconnection customer if they would not be needed 'but for' the interconnection customer's request, and the utility pays them back after construction. The Company states it would need FERC approval to implement alternative funding options and then to modify executed contracts.

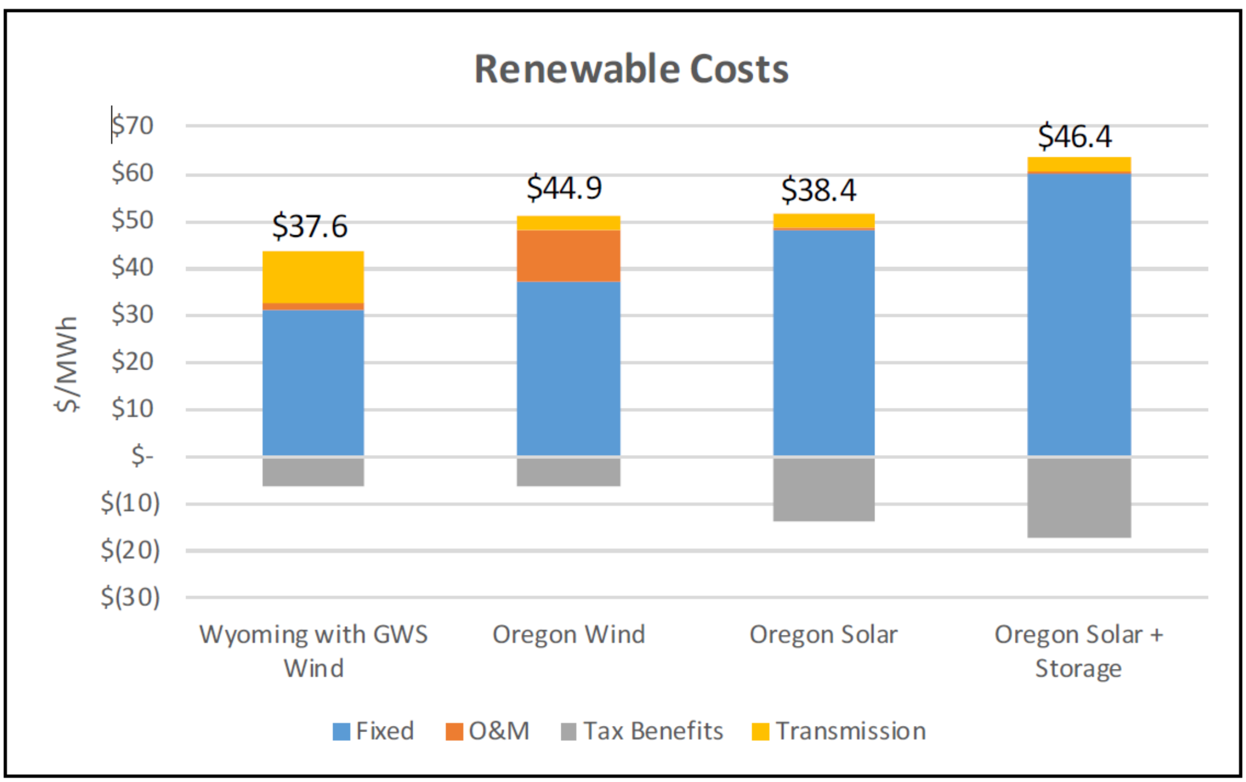
In response to Staff's concern about underutilization on EGS, the Company explains that resources are meant to be optimally utilized, not necessarily utilized around the clock.

In response to Staff's question about endogenous modeling of B2H, the Company replies that B2H cannot provide its full benefit without modeling additional transmission capacity from Borah to points west, which requires more complex modeling than just an increase to a transmission link path rating between two nodes.

**Staff's Response to PacifiCorp's Final Comments**

Staff thanks PacifiCorp for the information provided in response to Staff's requests. While the total Action Plan transmission costs data was helpful, Staff notes that PacifiCorp has not provided itemized Action Plan transmission costs as requested, and notes that the total of Action Plan transmission costs provided by PacifiCorp in Final Comments is not inclusive of Segment D.1.

Especially helpful was the chart on page 38 of PacifiCorp's final comments that provides a per MWh breakout of the comparative costs of EGS plus WY wind versus other projects considered in the IRP. This chart provides the type of information that Staff hoped to see in order to help explain why PacifiCorp's model chooses EGS.



The chart demonstrates that reduced capacity costs on a per MWh basis and reduced O&M costs are responsible for the relative cost-effectiveness of EGS with WY wind.

Staff has questions about why the O&M costs of Oregon wind are apparently many times that of WY wind or OR solar, and requests the Company be prepared to explain the reasons at the 2019 IRP acknowledgement decision meeting.

Staff would additionally like to respond to PacifiCorp's final comments by noting that Staff's intent in Final Comments was not necessarily to recommend delaying EGS to 2030. Staff intended for the Company to provide analysis to demonstrate why EGS is chosen by the model, rather than simply reporting that the model chose it. This type of information is essential in the conversation about new resources. The IRP conversation should be based in part on an understanding of the drivers for a given resource decision, rather than solely on the basis that a model 'chose' the resource.

*B2H*

Staff thanks PAC for its explanation of why B2H cannot be modeled endogenously. However, Staff still needs to better understand the limitations of endogenous modeling that do not allow the inclusion of B2H. Staff's questions to the Company regarding why B2H cannot be modeled as a simple connection between two points (Staff assumed these two points would be Boardman and Hemingway) were met with explanations that included the need to model transmission from Borah to Hemingway and Hemingway to Southern Oregon.

If endogenous selection in SO is a part of the 2021 IRP, Staff will continue to work with PacifiCorp to understand why certain projects cannot be included as options for endogenous selection. In the 2019 IRP, Staff is satisfied that the B2H sensitivity provides sufficient insight into the costs and benefits of the B2H line.

## <u>Staff Recommendations</u>

Staff's final recommendations on the transmission Action Items are as follows:

### 2.1 PacifiCorp Provide Individual Costs of Transmission Projects in the Action Plan timeframe

Staff appreciates the information on total transmission costs in the Action Plan in PacifiCorp's Final Comments. However, Staff has found it extremely difficult to get access to a list of the individual transmission action items and their costs. Staff recommends acknowledgement of any transmission items only to the extent that PacifiCorp provides Staff with the costs of each individual project before the acknowledgement decision. Staff has submitted an information request to PacifiCorp in another attempt to get a clear list of Action Item transmission projects and their individual costs.

**Recommendation:**

- **Acknowledge transmission Action Items conditionally upon PacifiCorp providing itemized costs for each transmission Action Item to Staff.**

### 2.2 Commission decline to acknowledge transmission projects that are complete or substantially complete.

In Commission Order No. 14-252 at page 3, the Oregon Commission expressed a preference for not acknowledging action items that are complete or substantially complete, given that the investment decision has already been made at such a point. PacifiCorp has included several such items in its Action Plan. PacifiCorp should remove already complete or substantially complete action items from its Action Plan. Alternatively, if PacifiCorp does not re-file its action plan without these items, the Commission should decline to acknowledge the substantially complete projects.

**Recommendation:**

**Decline to acknowledge the following transmission Action Items that are complete or substantially complete:**

- **Utah Valley Reinforcements:**
  - In Q2 2020, complete the Spanish Fork 345 kV/138 kV transformer upgrade.
  - In Q4 2020, complete rebuild of approximately five miles of the Spanish Fork-Timp138 kV line in the Utah Valley.

- **Utah South Reinforcements:**
  - Complete rebuild of the Mona –Clover #1 & #2 345 kV lines.

- **Yakima Washington Reinforcements:**
  - In Q2 2020, complete the Vantage-Pomona Heights 230 kV line (in process).

- **Energy Gateway West:**
  - Energy Gateway West Segment D.2, continue construction with target in-service date of 12/31/2020.

### 2.3 Conditional acknowledgement of transmission projects that are dependent on selection in an RFP

While selection in the IRP suggests it is highly likely that a transmission project will be selected in the RFP, the nature of the Company's RFP action item (without specific information on resource type or location) creates a possibility that the transmission upgrades from the IRP will not be selected in the RFP. The Commission should not acknowledge the reasonableness of these Action Items unless they are selected as a part of an RFP portfolio.

**Recommendation:**

- **Acknowledge RFP-dependent transmission items conditionally, depending upon those items' selection in the RFP.**

## 3. Coal Analysis

**PacifiCorp's Analysis**

PacifiCorp's coal analysis, described in Appendix R of the 2019 IRP, was the result of a collaborative process whereby the Company worked with stakeholders to identify the most cost-effective retirement dates for the Company's coal units.

**Stakeholder Positions**

*Sierra Club*

In Opening Comments, Sierra Club refers to this IRP as a step forward with respect to coal analysis. Sierra Club argues that PacifiCorp's decision to operate Jim Bridger units 3 and 4 until 2037 is not supported by evidence in the 2019 IRP. Sierra Club notes an error in Jim Bridger coal mine capital costs in the preferred portfolio, and asserts that coal price assumptions for Jim Bridger are understated. Sierra Club argues that the regulatory risk of a Selective Catalytic Reduction (SCR) at Hunter and Huntington units has not been accounted for in the IRP, and that PacifiCorp has "excluded opportunities to refinance the remaining plant balance of its existing coal fleet."

Sierra Club recommends that the Commission require PacifiCorp to re-evaluate the economics of each coal unit in all future IRPs. Further, the organization recommended that future PacifiCorp IRP analysis should use reasonable, well-justified coal price assumptions, correctly apply Jim Bridger coal mine cost assumptions, and quantitatively capture reasonably foreseeable environmental costs at the Hunter and Huntington plants.

Finally, Sierra Club recommends the Commission investigate the potential for securitization to "further reduce ratepayer costs when non-economic coal plants retire."

In Final Comments, Sierra Club reiterates that the coal mine cost error identified in the IRP has implications for the retirement dates of Jim Bridger 3 and 4, requesting the corrected costs be reflected in the preferred portfolio and the 2021 IRP. Sierra Club states that PacifiCorp has not justified its assumption of long-term cost declines for Jim Bridger fuel costs.

Sierra Club states that SCR requirements at Hunter and Huntington are 'reasonably foreseeable' risks that should be accounted for in the IRP. Sierra Club explains that the existence of a technically feasible Federal Implementation Plan (FIP) requiring SCR at these units represents a continuing risk that should be assessed in the next IRP.

Sierra Club notes that Jim Bridger SCR costs were not treated consistently in the 2019 IRP, because the coal study reflected the installation of SCR at Jim Bridger 1 and 2, whereas the IRP did not.

*CUB*

In Opening Comments, CUB expressed concern regarding the benchmark SCR assumptions in the Coal Study, which included SCR even though SCR was not found to be cost-effective on Jim Bridger 1 and 2 in the 2017 IRP. CUB states that they are unlikely to be found cost-effective in the 2019 IRP and should not have been included in the coal study. However, CUB states it does not think this error influenced the outcome of the IRP. CUB states that including SCR on Jim Bridger 1 and 2 is counter to Staff's request in comments during the 2017 IRP. CUB recommends acknowledgement of existing resource Action Items 1a – 1e.

In Final Comments, CUB explains that it views PacifiCorp's decision to include SCR on the Jim Bridger units in the coal study base case, but not the IRP as a reasonable, given that SCR is currently legally required on those units. CUB notes that Idaho Power has different retirement dates for Jim Bridger units than PacifiCorp, and requests the Company align its retirement dates with Idaho Power and provide an explanation of the role of B2H in determining retirement dates.

*NWEC*

In Opening Comments, NWEC notes a "strong case that the earlier coal retirements set forth in this IRP are quite modest in the context of the company's entire set of resources," and says much more can be done to reduce emissions while retaining system reliability and affordability. NWEC notes PacifiCorp's status as one of the nation's largest single emitters of GHG and says the pace of GHG reductions should be higher. NWEC writes that consideration of accelerating coal fleet retirements and their replacement with clean resources should be the highest priority of the next IRP cycle. NWEC emphasizes providing benefits to customers, maintaining and increasing resource adequacy and reliability, and substantially reducing GHG emissions. Finally, NWEC emphasizes the importance of a transition plan to support communities affected by coal closures, noting its participation in the transition plan for the Centralia plant prior to its closure.

NWEC's Final Comments describe the 2019 IRP coal analysis as a step forward, and states that analysis of coal fleet retirements should be the highest priority in the next IRP cycle. NWEC states that key issues include operational flexibility, coal contracts, emissions regulation, and end-of-cycle issues such as coal residuals. NWEC additionally urges the Commission to address the issue of assistance for communities affected by coal plant closures and signal interest in concrete actions to provide transition support to affected communities, mentioning securitization as a way to facilitate the financial transition and potentially provide resources to affected communities. NWEC indicated support for PacifiCorp's coal unit retirements in the action plan.

*RNW*

In Opening comments, RNW expresses support for the coal analysis in the 2019 IRP as an important step, and encourages "further study in future IRP cycles to facilitate additional economic retirements." NWEC notes the IPCC's statement that limiting global warming will require rapid transitions in energy, and asserts that there is an ethical imperative to address climate change that has never been clearer. RNW provids a summary of the pre-IRP coal study process, expressing "appreciation for PacifiCorp's responsiveness to stakeholder comments and questions."

RNW lauds the Company's move away from emitting resources, and its work to modernize its reliability methodology with resources like wind, hydro, batteries, and market purchases. RNW notes the difficulty of capturing benefits of resources like solar plus storage in traditional resource modeling, and notes that renewables and storage are now cost-competitive. RNW states that further coal portfolio modeling may identify further cost-effective coal retirement scenarios with more benefits for customers.

In Final Comments, RNW expresses appreciation for PacifiCorp's commitment to re-evaluate economics of coal units in future IRPs.

*NIPPC*
In Opening Comments, NIPPC expresses support for PacifiCorp's plan to retire coal units in the Action Plan and acquire new resources.

*Multnomah County*
Multnomah County recommends that PacifiCorp pursue "more rapid and ambitious coal retirements" and continue to perform coal analyses in future IRPs that is informed by learnings of the 2019 IRP and stakeholder input. The analysis should focus on identifying uneconomic coal units and address plans to retire them so that ratepayers are protected from future rate shock as more aggressive climate policies are enacted.

**<u>PacifiCorp Position</u>**

*Reply Comments*
In Reply Comments, PacifiCorp states that its coal study assumptions are reasonable, and that it has appropriately accounted for environmental compliance costs. PacifiCorp states that it was reasonable to include SCR for Jim Bridger 1 and 2 in the coal study because it is consistent with how the company treats environmental compliance obligations in the IRP. The Company notes that it applied in 2019 for a reassessment of the State Implementation Plan (SIP) for Jim Bridger, proposing an alternative to SCR at these units, and the 2019 IRP assumes the SIP will be approved. The Company states that it excluded SCR cost assumptions from Hunter and Huntington units because the FIPs for those units had been stayed by the US Tenth Circuit Court of Appeals pending EPA's reconsideration. Utah has submitted a SIP that does not require SCR on those units. PAC states that its SCR modeling was consistent throughout the IRP and based on current legal requirements.

*Final Comments*
In Final Comments, PacifiCorp expresses its position that SCR should continue to be assessed in IRP analysis, even if it is found to be not cost-effective at one time. The Company reiterates that its SCR modeling is based on current legal requirements.

In response to CUB's request that the Company align its retirement dates with Idaho Power, PacifiCorp responds that its system is different from Idaho Power's, and each company's IRP will result in somewhat different resource decisions. PacifiCorp states that it will continue to coordinate with Idaho Power to establish prudent outcomes for customers regarding the Jim Bridger plant and mine.

PacifiCorp reports that the error identified by Sierra Club regarding Jim Bridger mine costs will be fixed in the development of the 2021 IRP. The Company responds to

Staff's recommendation to include the updated Jim Bridger retirement dates that result from fixing this error, stating that it would include a sensitivity to the initial shortlist of bidders that shows any changes from including these dates. The Company states that it does not wish to change the retirement dates in the RFP so as not to cause confusion between the preferred portfolio, as currently referenced in RFP documents, and the RFP.

**Staff's Position**

In Opening Comments, Staff points out that Jim Bridger (JB) 3 or 4 retirement would result in greater cost savings than retirement of JB 1 or 2, because it has SCR which requires costly inputs to run. Staff notes that the coal retirements in the IRP are generally reflective of the findings of which coal units were least cost-effective in the coal study.

In Final Comments, Staff notes Sierra Club's Opening Comments, where Sierra Club argued that several issues with coal modeling in the IRP resulted in the selection of P-45 while in fact P-36, which retires JB in 2025, should have been chosen. Staff explains that it needs more information to determine its position on the 500 MW reliability methodology. Staff notes that PacifiCorp's fuel cost forecast for JB may be unrealistic, that solar costs may be overstated, and that securitization could indeed save customers money.

Staff concludes that while there may be merit to Sierra Club's arguments, Staff does not have enough information and the impacts have not been shown to be large enough to impact the IRP Action Plan. Staff recommends that PacifiCorp's RFP reflect the JB retirement dates from P-48, in line with the results of PacifiCorp's correction to its JB mine costs.

**Staff's Response to PacifiCorp's Final Comments**

Staff would like to again express appreciation for the work that went in to the coal study and the significant customer savings that will result from its inclusion in the IRP. Staff recommends acknowledgment of the coal retirement dates in the PacifiCorp 2019 IRP Action Plan. Staff appreciates PacifiCorp's commitment to continue to look at additional coal retirements in the 2021 IRP.

Staff recommends that analysis in the 2021 IRP look specifically at earlier retirement dates for Jim Bridger 3 and 4, because the Company has acknowledged that an error in coal mine costs would result in a portfolio with earlier dates for these units.

**<u>Staff Recommendations:</u>**

**3.1 Coal Study**

**Recommendation:**

- **Direct PacifiCorp to include in its 2021 IRP development process updated analysis identifying the most cost-effective coal retirements for the 2021 IRP. This should include consideration of earlier dates for Jim Bridger 3 and 4 reflective of the corrected portfolio analysis in the 2019 IRP.**

- **Direct PacifiCorp to provide a presentation to Staff, Commissioners, and any interested stakeholders who have signed the LC 70 protective order regarding the coal mine costs at Jim Bridger and the drivers for the Jim Bridger coal price forecast within 120 days of the LC 70 acknowledgement order.**

**3.2 Changes to PacifiCorp's System**

Staff notes that upcoming changes to PacifiCorp's system may significantly impact resource dispatch and costs. Within the next several years, PacifiCorp may join the CAISO EDAM and begin to use nodal pricing to allocate the variable costs of its resources. Staff finds that discussion of these potential changes will be essential to long-term planning in the near-term.

**Recommendation:**

- **Direct the Company to work with stakeholders in the early stages of IRP development to determine the type of analysis or sensitivity that would best allow the Company to consider and assess the future cost-effectiveness of specific coal units including Hunter, Huntington, and Wyodak if nodal pricing and the Energy Day Ahead Market (EDAM) are realized, with the goal of including such an assessment in the 2021 IRP.**

- **Direct the Company to provide a workshop for Oregon Staff to discuss the Oregon-specific economics of coal retirement or exit dates in the 2021 IRP and onward under nodal pricing, EDAM, and expected changes to resource allocation.**

**4. QF Modeling and Analysis:**

**<u>PacifiCorp's Analysis</u>**
PacifiCorp has not modeled any new QFs nor any renewals of existing QFs with future contract expiration dates in the 2019 IRP.

**<u>Stakeholder Positions</u>**
*REC*
In Opening Comments, REC explains that PacifiCorp's response to a data request in LC 70 recognizes the value QFs provide to PacifiCorp's system when they renew contracts, and recommends the Commission acknowledge this value and direct PAC to assume a reasonable number of its QFs renew. REC notes that when a QF renews a contract, it currently stops receiving the same capacity payment that it received at the end of its last contract. REC notes that PAC's analysis shows that QF contract renewals would delay the acquisition of a Single Cycle Combustion Turbine (SCCT) by three years.

REC explains that the QF renewal issue has been before the Commission since 2014, and says the issue has 'gone on long enough' and that the Commission should direct PAC in this proceeding to use the analysis from the IRP to appropriately account for the capacity value existing QFs provide. REC notes that after a QF has chosen its location, it has fewer options as selling to another utility would likely include substantial transmission charges.

REC explains that PAC's own records show most QFs continue operating and renew their contracts. Of the 36 QFs that have had a contract with PAC expire, nearly all have renewed or executed a new contract with PAC. REC recommends that the Commission either direct the Company to pay capacity payments at the start of the renewed QF contract, explaining that the Idaho Commission has taken this approach, or direct PacifiCorp to determine exactly what capacity value QFs provide and compensate them for that value.

In Final Comments, REC recommends the Commission recognize the value QFs provide to PacifiCorp's system and direct PacifiCorp to assume a reasonable number of QFs renew their contracts in the IRP.

*Sierra Club*
In Final Comments, Sierra Club supports Staff and REC's argument that PacifiCorp's QF IRP assumptions are unreasonable, and states these assumptions should be improved in the next IRP. Sierra Club recommends the Company include a 'middle-of

the-road' QF renewal and new QF assumption in its planning, while considering the potential for no new contracts or renewals as a sensitivity.

**<u>Staff Position</u>**

In Opening Comments, Staff writes that a forecast of zero new QFs over the planning timeframe is unreasonable, recommending that PacifiCorp should include a forecast of new QFs in the preferred portfolio in the 2019 IRP.

In Final Comments, Staff recommends that PacifiCorp include a reasonable forecast of both QF renewals and new QFs in its preferred portfolio and load resource balance in the next IRP. Finally, Staff recommends that if the Company needs to utilize a forecast that includes no QFs in order to set accurate avoided cost rates, then it should include QF renewals in its preferred portfolio and load resource balance, while providing a separate analysis without QF renewals or new QFs in order to set avoided cost rates.

**<u>PacifiCorp Position</u>**

*Reply Comments*

In Reply Comments, PacifiCorp responds to Staff and REC's recommendations to include QF forecasts and QF renewal forecasts in the preferred portfolio. PAC says that it cannot require a QF to renew or execute a new contract, which makes their inclusion problematic from a planning perspective. Additionally, PAC explains that the IRP includes all new executed QF contracts, even if not yet online. This leads PacifiCorp to conclude that trying to include additional capacity based on historical trends could lead to unreasonable results. PAC explains that from 2013 to 2019, it executed hundreds of MW of new or renewal QF PPAs, but during the same timeframe it also terminated hundreds of MW of new QF PPAs because the facilities were never built. PAC concludes that a forecast based on historical trends could be inaccurate. PacifiCorp explains that past trends are not a reasonable predictor of future QF development activities. The Company concludes that its current methodology is the most appropriate.

PacifiCorp explains that changing the forecasting of QF renewals would have cost implications, since QFs are compensated based on avoided costs. PacifiCorp writes that it is open to continuing to explore QFs relationship to the IRP process. PacifiCorp recommends the conversation be continued in either UM 2000, UM 2011, or UM 2038.

PacifiCorp then explains its view that any changes to QF compensation policies should be undertaken as part of the PURPA investigation Docket No. UM 2000 or capacity Docket No. UM 2011, noting that avoided cost methodology is already an issue in Docket No. UM 2000.

*Final Comments*
In Final Comments, PacifiCorp expresses openness to performing sensitivities in the IRP to demonstrate the potential impacts of new and renewing QFs, but disagrees with the proposal that the renewing QFs should be included in the preferred portfolio. PacifiCorp explains that if it includes any QF renewals, it risks a portfolio that does not acquire the right amount of capacity, noting that “a number of QFs on PacifiCorp’s system have recently chosen to take advantage of higher rates available elsewhere and wheel their power to other utilities.”

PAC notes that including a forecast of new QFs on par with the historical number would result in 1,200 to 6,000 new MW of QF capacity over the planning horizon, meaning that PAC would plan for more than half of preferred portfolio wind and solar resources to be acquired outside of a competitive bidding process. The Company states that resources acquired through competitive bidding would likely be ‘more cost-effective and targeted,’ and that it’s not clear what resource mix the Company would assume for new QFs. The Company offers that it could designate some of the preferred portfolio renewable resources as QFs.

PacifiCorp cautions that the Commission should note that QF contracts and pricing are state-jurisdictional, and the energy and capacity benefits of QFs will soon be allocated to states on a situs basis. PAC writes that any inclusion of QF renewals considered by the Oregon commission should only apply to Oregon QFs. PAC notes that significant analysis of state-specific resource portfolios and allocations will be included in the 2021 IRP, and a blanket assumption about QF renewal across the system may not be appropriate.

Finally, PacifiCorp responds to Staff’s recommendation to forecast QF renewal in the preferred portfolio and load resource balance, while performing a sensitivity without QF renewal to inform avoided cost rates. PAC suggests this two-tier approach is best reviewed in UM 2038 to allow more time for the Company to consider this proposal and allow for input from stakeholders and other utilities.

**Staff Recommendations**
Staff appreciates the conversation on QF forecasts and renewals in the IRP and the variety of perspectives that have been expressed throughout the 2019 IRP review process.

Just as renewables have some capacity contribution in the aggregate, even though they are unpredictable on an individual level, Staff finds that QFs have capacity value over the long-term that should be recognized in long-term planning, even if their future renewal and new contract rates are not known precisely. Furthermore, to the extent that the renewal rates change over time, the frequency of the IRP approximately every two years will allow for the Company to adjust its planning to account for new trends before its plans stray far from actual renewal rates. The use of a rolling-average historical renewal rate could allow trends to be picked up quickly and reflected in planning soon after they develop.

In the short term, careful treatment of QF renewals near to the action plan timeframe could prevent the Company from being surprised by a large QF non-renewal and needing to rush to obtain new resources. This may be discussed in Docket No. 2038, along with other ways to improve the ability of the utility to depend on QFs for capacity if needed.

The path forward to decide the capacity issue that REC has raised again in this IRP is not yet clear. Staff recommends the Commission establish a clear path forward regarding how it plans to accomplish three goals:

1. Provide direction for PacifiCorp regarding how to treat QFs in long term planning in time for the next IRP, preferably through UM 2038,
2. Provide specific, timely guidance for PacifiCorp as to whether QFs should be given an uninterrupted capacity payment upon contract renewal, or whether they should be compensated based on a new sufficiency period after renewal.
3. If a capacity payment made immediately upon contract renewal is determined to be justified, decide what the immediate capacity payment should be.[14]

Staff recognizes that the investigation in Docket No. UM 2038 may provide guidance that applies to QF planning in time to influence the preferred portfolio in the next IRP. That would accomplish the first goal.

Staff also finds that it would be reasonable to include the question of whether to give an uninterrupted capacity payment to QFs upon contract renewal in the UM 2000 PURPA investigation or the UM 2011 capacity investigation at the Commissioners' discretion. Staff recommends the Commission affirm its intent to address this question in one of those dockets with guidance issued before PacifiCorp files its next IRP, noting that some discussion of capacity payments was included in the scoping white paper in UM 2000.

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[14] REC reports that the Idaho Commission has simply extended the existing capacity payment, while REC suggests that a new capacity payment could be based on analysis in the IRP of the value of QF contract renewal in deferring new capacity resources.

Regarding goal number three, Staff finds that an appropriate place to address this technical question is in the avoided cost filing that the Company is required to make at the same time as its next IRP.[15] If the Commission has decided in advance of the filing of the next IRP to require utilities to provide an uninterrupted capacity payment to QFs, then the amount of that payment could be discussed at length by parties until the IRP acknowledgment decision in the next IRP, at which time PacifiCorp will be required to file its final avoided cost rates within 30 days.[16]

Additionally, Staff notes, as did PacifiCorp, that QF costs and benefits of new and renewing QFs may soon be allocated on a situs basis to the state in which each QF is located. Staff recommends that Oregon-specific analysis be included when considering how to treat QFs in long term planning and what capacity payment they should be given upon contract renewal*.* [17]

**Staff Recommendation:**

- **Affirm that QF renewals do provide some capacity value to PacifiCorp's system, given the high historical renewal rate, with consideration that QFs currently may look for other opportunities to sell power if conditions change.**

- **Direct staff to investigate whether there are ways to provide the utility greater assurance of continued QF power through contractual or other means.**

- **Provide direction that, if the Company's next IRP does not forecast QF renewals as part of the preferred portfolio, then it should provide an informational sensitivity showing the impact of QF renewals on the preferred portfolio, inclusive of reporting on the types, quantities, and durations of resource deferrals in comparison to the preferred portfolio.**

- **Announce its intent, by March 1, 2021, to decide in Docket UM 2000 or UM 2011 the question of whether to provide immediate capacity payments for QFs renewing their contracts.**

[15] OAR 860-029-0080(3). Requiring IOUs to file draft avoided costs at the same time as the IRP.
[16] OAR 860-029-0085(1).
[17] Order No. 20-024.

- **Direct PacifiCorp that, if the decision in UM 2000 or UM 2011 requires the continuation of capacity payments immediately after QF contract renewal, the Company should file a proposed capacity avoided cost rate for renewing contracts, along with all workpapers used to develop the rate, with its avoided cost filing made concurrently with the next IRP pursuant to OAR 860-029-0080(3).**

## 5. DSM Type 1: Demand Response (DR)

**PacifiCorp's Analysis and Position**

In the 2019 IRP, PacifiCorp identified demand response opportunities in its Eastern Balancing Authority Area (BAA), but none in Oregon in the Action Plan timeframe.

**Stakeholder Positions**

*NWEC*

In Opening Comments, NWEC writes that "the lack of a consistent development strategy for flexible demand is a serious disservice to customers," and recommends that an overhaul of the Class 1 and Class 3 DSM assessment is in order. NWEC recommends PAC include a new action item in the 2019 IRP Action Plan to perform such an overhaul, including a new outside expert study and a stakeholder workshop, with the outcome a full and comprehensive approach to Class 1 and 3 DSM. NWEC recommends using learnings from PGE's DR testbed and the 2021 Regional Power Plan of the Northwest Power and Conservation Council (NWPCC).

Finally, NWEC recommends a separate demand response RFP to test the market for readiness, pricing, and range, as well as an assessment of potential PacifiCorp-managed programs.

In Final Comments, NWEC writes that DR must be scaled up rapidly to support new clean resources and help manage demand peaks. NWEC notes the increased focus on DR in the CPA for the 2021 IRP, and states that the demand response metrics can take advantage of updated DR metrics in the 2021 Northwest Power Plan.

NWEC notes the new Washington regulation requiring a grid-integration interface in new water heaters and suggests PacifiCorp could implement a similar approach, beginning with a pilot program. NWEC references PacifiCorp's own smart grid reporting and AMI infrastructure, in addition to its existing DR programs as "elements for a rapid expansion of demand response."

NWEC thanks PacifiCorp for considering NWEC's DR RFP recommendation and suggests that clear guidance from the Commission that DR is a high priority will be helpful in ensuring follow through from the company going forward.

*Multnomah County*
In Final Comments, Multnomah County recommends PacifiCorp consider more demand response resources, supporting NWEC's recommendation that the Company engage in a demand response RFP. Multnomah County recommends this RFP be timed to allow DR to compete with other supply side resources. Multnomah County points to PGE's success with DR, noting that it can provide opportunities for community investment, and referencing PGE's residential demand response program whereby PGE reduced its peak by 50 MW last summer while saving money for customers. Multnomah County posits that Multnomah County is a prime opportunity for PAC to pilot residential DR programs, as its residents are likely a receptive customer base for a program to reduce peak load and help reduce carbon emissions.

*CUB*
In Opening Comments, CUB recommends the Commission decline to acknowledge PacifiCorp's DSM action because the Company has not fully explored opportunities, especially for DSM Class 1 resources.

In Final Comments, CUB expresses concern that no DR resources were selected in Oregon on the action plan timeframe. CUB recommends DR pilots to prepare the company for future acquisition of DR resources. CUB expresses appreciation for PacifiCorp's willingness to discuss pilot programs and a separate DR RFP. CUB recommends acknowledgement Action Item 4a subject to conditions that PAC agree to more DR pilots in Oregon and that PAC agree to a separate near-term RFP to acquire DR.

**<u>Staff Position</u>**
In Opening Comments, Staff noted that zero demand response is planned for Oregon in the action plan timeframe. Staff notes concern that requiring solar to be paired with storage may be contributing to the lack of demand response, and notes that PGE's Energy Partner Pilot in Oregon has achieved DR peak load reduction of nearly 12 MW, wondering how many potential interruptible contracts in PacifiCorp's Oregon territory are being missed. Staff requests to reinvigorate the discussion around demand response that was started in the 2015 PAC IRP.

Staff notes that the NWPCC's Seventh Power Plan found DR the cheapest way to meet capacity needs, and that at least 600 MW should be developed. Staff notes the success of DR programs in Utah in recent years, and says it cannot support the DSM action item until PAC provides data on DR calculations and makes an effort to achieve greater DR savings. Staff recommends the Company:

1. Determine the amount of cost-effective DR in its Western BAA and include it in its 2019 Action Plan;
2. Engage Staff and stakeholders in a discussion of DR pilots; and
3. Hire an independent third party to review its DR methodology in the Conservation Potential Assessment (CPA) and IRP.

*Final Comments*
In Final Comments, Staff expresses appreciation for PAC's willingness to discuss and adjust CPA modeling approaches regarding demand response but notes that should this process fall short, a complete re-boot of DR planning in the IRP will be required. In Final Comments, Staff expresses openness to participating in a conversation about a DR-specific RFP and recommends the Company update its DSM Action Item to reflect the development of a DSM pilot in Oregon and a stakeholder process to discuss a DR RFP.

Staff notes that significant battery storage was chosen in the preferred portfolio in combination with solar and on a standalone basis, even with the higher per kw costs of batteries compared to demand response. Staff suggests that DR acquisition could be paired with solar. Staff recommends:

- Continuing stakeholder discussions of DR cost-effectiveness in the CPA;
- Disallowance of battery storage costs until PAC proves it acquired all cost-effective demand response; and
- An appendix in the next IRP to explain how the company acquired all cost-effective DR.

**PacifiCorp Position**
PacifiCorp's Reply Comments note that the Company will plan to work with Staff to design a workshop on the topic of DR pilots. Indeed, PacifiCorp held a conference call with Staff on January 30 regarding demand response pilots (amongst other related topics), and a workshop with Staff and stakeholders for April 14 to discuss demand response pilots and a potential DR RFP.

PacifiCorp agrees with Staff that there is value in stakeholder discussions to identify potential improvements to the CPA demand response methodology, including how the resources are evaluated with the IRP model. However, the Company sees limited value in utilizing a third party to review this methodology. The Company proposes to work with stakeholders through the CPA workshops for the 2021 IRP. PacifiCorp has started the stakeholder engagement process early in the IRP development process to allow for more meaningful engagement and participation.

PacifiCorp next addresses Staff's concern about the Company's good faith pursuit of cost effective demand response in Oregon. The Company states that the appropriate amount of economic demand response resources was selected over the 20-year planning horizon.

PacifiCorp states that questions surrounding the valuation of demand response should not hold up acknowledgement of DSM action items given the thorough and time-tested analyses and evaluation involved. The Company notes improvements to DR modeling for the 2019 IRP, and notes that improvements to modeling DSM for the 2021 IRP are under development.

PacifiCorp concludes by noting Company's openness to having additional meetings about CPA DSM methodologies and assumptions.

*Final Comments*
In Final Comments, the Company reiterates that it has included an appropriate level of DR for Oregon. PacifiCorp notes that it may be premature to launch a DR pilot or RFP but commits to additional stakeholder meetings to discuss the ideas, which will enable PAC to provide an update to the Commission on whether an RFP is appropriate, including a proposed timeline. PAC notes that it is already updating its CPA modeling of DR in response to stakeholder feedback. PAC strongly disagrees with Staff that battery investment should be disallowed until it proves it will acquire all cost-effective DR. PacifiCorp notes that batteries and DR provide different services to the system, with batteries able to absorb excess solar from non-peak hours and use it during peak hours.

**Staff's Response to PacifiCorp's Final Comments**
Staff appreciates the efforts and openness to improve modeling for the 2021 IRP, including the CPA workshops and the Company's openness to a DR RFP and pilot. Staff is pleased with the Company's willingness to engage demand response in a substantive way in the comment process, and that the comment process has revealed areas of agreement:

- Staff and the Company agree that DR and batteries play a role in addressing a peak in demand, and that DR and batteries are not entirely interchangeable in all circumstances. The differing Levelized Cost of Energy (LCOE) PAC noted in Final Comments reflect this.

- In both Initial and Final Comments Staff conducted analysis using data from the 2019 IRP to compare the Levelized Cost of Capacity (LCOC) of various DR programs and storage systems. The Company did not object to nor correct this analysis, and so Staff assumes that the Company agrees with the conclusion: there are numerous DR programs that have a lower LCOC than the storage systems which are proposed to be paired with solar.

In the Company's Final Comments, PacifiCorp expresses dissatisfaction that Staff objects to the results of DR modeling. Staff too is dissatisfied that this issue remains unresolved through the comment process. Staff remains committed to understanding how the exercise could have yielded the amounts of DR and storage that it did. Staff appreciates PAC's explanation in its Final Comments of the added value that batteries provide by moving solar energy from low-market-price, low-demand hours to high-market-price, high-demand hours. This may help explain why stand-alone batteries are selected in 2028 instead of DR.

However, Staff is still concerned that the requirement to pair solar with storage in SO may be limiting the amount of DR chosen, while creating additional costs for ratepayers. Staff finds that an RFP process which allows solar to be paired with storage *and/or* a limited amount of demand response would be an acceptable solution to this issue.

PacifiCorp states in its Final Comments that it can provide a report to the Commission on whether a DR RFP is appropriate, including a proposed timeline. Staff recommends the report should include an assessment of the feasibility of Staff's proposal to allow a certain amount of DR to be paired with solar. Additionally, the report should include an assessment of any other accommodations that can be made so that demand response is treated evenly with batteries, even as batteries are required to be selected along with any solar resources in System Optimizer.

## Staff Recommendations

- **The Commission should affirm that acquiring all cost-effective Demand Response is a high priority for the Oregon Commission.**

- **The Commission should direct PacifiCorp to provide its DR RFP report to the Commission in time for the DR RFP to potentially be integrated with the Company's 2020AS RFP.**

- **The Commission should direct PacifiCorp to include an explanation in its next IRP that clearly details how the Company is planning to acquire all cost-effective Demand Response.**

- **PacifiCorp should continue to engage Staff and interested stakeholders in discussion of additional demand response pilots and/or programs.**

- **PacifiCorp should continue to engage Staff and interested stakeholders in discussion and review of PacifiCorp's methodology for demand response cost-effectiveness as presented in the IRP and CPA.**

## 6. DSM Type 2: Energy Efficiency

**<u>PacifiCorp Analysis</u>**
Class 2 Demand Side Management (DSM) represents energy efficiency (EE) and plays a key role in PacifiCorp's IRP resource mix. As in past IRPs, the Company evaluated DSM opportunities across all six states as resources that would compete with generation and wholesale power market purchases. PacifiCorp reflects EE resource acquisitions as reductions in the IRP's overall load forecast.

In the 2019 IRP, PacifiCorp's preferred portfolio proposes acquiring 2,324 MW of cumulative EE over the twenty year planning horizon. This represented a nearly 12 percent increase over the previous IRP. During the IRP action plan window PacifiCorp proposed acquiring the following amounts of DSM system-wide:

| Year | Annual Incremental Energy (GWh) | Annual Incremental Capacity (MW) |
|---|---|---|
| 2019 | 562 | 126 |
| 2020 | 536 | 132 |
| 2021 | 538 | 133 |
| 2022 | 571 | 143 |

This is an approximately 4 percent reduction in EE during the action plan window from the previous IRP. The Company also attempted to introduce an alternative DSM-bundling methodology as part of this IRP at the request of stakeholders. This alternative methodology remains under development.

**<u>Stakeholder Positions</u>**
*NWEC*

In Opening Comments, NWEC opposes the Energy Efficiency Action Item, explaining that it believes the targets are too low, and should be increased commensurate with the higher levels in model runs throughout the IRP. NWEC supports development of alternative bundling methodologies, and notes that the IRP lacks specific details about energy efficiency plans in each state.

NWEC expresses concern about the trend of PacifiCorp acquiring significantly more efficiency in Oregon than other states, resulting in Oregon ratepayers funding higher levels of this resource than other states, thereby subsidizing ratepayers in other states. NWEC states that efficiency should be ‘acquired in a consistent manner across all parts of the Company’s service territory’ to lower costs for all PacifiCorp customers.

NWEC recommends PacifiCorp reexamine its efficiency analysis in the 2021 IRP, and encourages immediate action to implement distribution efficiency measures. NWEC recommends non-acknowledgement of the efficiency action item due to chronic underestimation of cost-effective Class 2 DSM.

In Final Comments, NWEC reiterates its concern about chronic underestimation of efficiency, noting that Oregon consistently achieves higher EE to percentage of load ratio than other states. Further, NWEC notes that PacifiCorp reported not achieving its efficiency targets in any state except California. NWEC writes that it views the Company’s failure to provide an explanation of why it failed to meet targets as a direct violation of the spirit of Order No. 16-071.

NWEC states that the importance of acquiring all cost effective and available EE will increase as PacifiCorp’s system mix undergoes a rapid change. NWEC recommends that a more robust and accurate CPA is required, as well as better integration of CPA data into the IRP. NWEC reiterates that PacifiCorp should be held accountable to acquire the maximum feasible cost-effective conservation available in all states in its service territory.

*CUB*
In Opening Comments, CUB recommends the Commission not acknowledge Action Item 4a, Energy Efficiency Targets, as CUB believes the Company has not fully explored opportunities for efficiency, especially Class 1 DSM.

In Final Comments, CUB recommends acknowledgement of the Efficiency Action Item 4a, with conditions regarding the Company taking action to implement Demand Response in the near-term.

**<u>Staff Position</u>**

In Opening Comments, Staff notes that Oregon's share of PacifiCorp's EE acquisition in the 2019 IRP is notably higher than its share of load. Staff notes concern that Oregon is supplying a cost-effective resource to the system, while also not seeing the benefit of efficiency acquisitions in other states. Staff notes Oregon's share of EE has increased since the 2017 IRP.

Staff notes the importance of considering the results of the collaboration between PacifiCorp and ETO regarding reasons for the differences between forecast EE and actual ETO-achieved EE, and how they could be used to apply to other states. Staff requests PacifiCorp report back on how these learnings could be utilized in other states.

**PacifiCorp Position**

In Final Comments, PacifiCorp reports that it committed to an April 2020 CPA meeting to discuss EE potential and the challenges of acquiring similar levels of EE across the Company's service territory. PacifiCorp writes that it is not clear that it would be appropriate to not acknowledge the Class 2 DSM action item based on inequities in energy efficiency acquisition across service territories" because each state's requirements for EE are different. PAC recommends that "any concerns regarding inequitable rate impacts for Oregon customers are better addressed in a cost recovery proceeding.

**Staff Response to PacifiCorp Final Comments**

Staff appreciates PacifiCorp's willingness to work with Staff and stakeholders to refine the Company's Class 2 DSM modeling and to better understand the differences in efficiency levels between states.

Staff is putting on hold its recommendation to hire a third party to review the results of Oregon Energy Efficiency Analysis Report and recommend practices for efficiency in other states. The PacifiCorp 2020 Multistate Protocol in Docket No. UM 1050 may result in changes that make such an exercise unnecessary. However, Staff plans to revisit this issue in the next IRP if needed.

Additionally, Staff reiterates the need to explore strategies that are alternatives to the current bundling approach. Staff recommends studying the effects of bundling based on different characteristics in order to gain insight into how bundles are being selected and what methods will lead to the best approach to select the appropriate amount of cost-effectiveness.

**Staff Recommendations:**

- **Acknowledge Action Item 4a, Energy Efficiency Targets, contingent on the Company's continued collaboration with Staff and stakeholders toward a methodology to determine and acquire all cost-effective DR.**

- **PacifiCorp should pursue alternative bundling strategies, starting with optimizing bundles based on each major factor that will be evaluated when making resource selections in the 2021 IRP (E.g. energy value, capacity, peak capacity factor, etc.). Review results with stakeholders and identify the appropriate combination of strategies to optimize "bundles".**

## 7. Other Issues, Considerations, and Recommendations:

### 7.1 REC Sale Action Item

Staff finds it unclear what is meant by PacifiCorp's Action Item 6b to "maximize the sale of RECs that are not required to meet state RPS compliance obligations."

**Staff Recommendations:**

- **Staff recommends acknowledgement of the REC Sale Action Item contingent upon PacifiCorp providing a satisfactory explanation at the LC 70 Acknowledgement meeting of what is meant by "maximizing the sale of RECs" and agreeing to update the language in any similar Action Item in the next IRP to reflect that explanation.**

### 7.2 500 MW Reliability Resources

In the 2019 IRP, PacifiCorp added a reliability methodology that requires 500 MW of extra reserves, after contingency and regulation reserve requirements are met.[18]

PacifiCorp's IRP explains that operating reserve requirements are included in the Planning and Risk (PaR) analysis.[19]

Additionally, PacifiCorp's planning reserve margin (PRM) calculation estimates the resources that are needed to meet peak load plus operating reserve requirements. The PRM is used as an input into the capacity expansion analysis in SO.

[18] PacifiCorp 2019 Integrated Resource Plan. Volume II. Page 650.
[19] PacifiCorp 2019 Integrated Resource Plan. Page 182.

The issue that Staff continues to have with PacifiCorp's 500 MW reliability resource methodology is that the addition of 500 MW to represent all of PacifiCorp's operational 'capacity held in reserve' on a peak summer day in 2018 does not seem to be a good fit for the specific reliability issue PacifiCorp describes, whereby its Planning and Risk model is unable to account for uncertainty when run deterministically. Staff maintains the position that a different methodology, more precisely designed to address the lack of stochastic consideration in a deterministic PaR run, would have been a better approach.

However, Staff notes that the 500 MW reliability resource requirement does not significantly affect the amount of resources selected during the action plan timeframe in the preferred portfolio.

Staff looks forward to working with PacifiCorp on establishing cost-effective, reliable portfolios in the 2021 IRP public input process.

**7.3 Distributed Standby Generation (DSG):**
Staff appreciates the Company's efforts to reach out to customers regarding DSG, and requests the Company include an update on any progress toward a DSG program in the 2021 IRP.

**Staff Recommendation:**

- **Direct PacifiCorp to include an update on its DSG program efforts in its 2021 IRP.**

**7.4 Class 3 DSM:**

In Final Comments, Staff supports NWEC's recommendation that PacifiCorp obtain an outside expert study on Class 3 DSM in the next IRP cycle. In PacifiCorp's Final Comments, the Company suggests it is not clear that an outside expert study is necessary at this time.

Staff has considered PacifiCorp's response, and finds that an outside expert study may be most useful after more than one year of customer data are available from any Class 3 DSM pilots pursued by the Company as a result of the PacifiCorp rate case in Docket No. UE 374. Staff recommends that this issue be revisited in the 2021 IRP. Specific consideration should be given to the possibility of obtaining an outside expert study once the Class 3 DSM tariffs have been in effect for at least one year, to assess opportunities for improving participation and effectiveness of the Company's programs.

**<u>Staff Recommendation</u>:**

- **Direct PacifiCorp to report in the 2021 IRP on the timeframes and participation rates for any existing or planned Class 3 DSM pilots or schedules.**

**7.5 Capacity contribution of renewables:**

The Capacity Contribution calculation for renewable resources is a substantial part of PacifiCorp's 2019 IRP. Staff has expressed concern about the lack of a clear and readily understandable explanation of how the Company has calculated this value in the 2019 IRP.

**<u>Staff Recommendation</u>:**

- **The 2021 IRP lead-up, public input process to the 2021 IRP should include a presentation by the Company providing an in-depth study of the calculation of renewables' capacity contribution as reflected in the load resource balance and in capacity expansion modeling.**

**7.6 Climate adaptation:**

In Final Comments, PacifiCorp states that it would evaluate Staff's proposal for consideration of climate adaptation to be included into the next IRP. Staff's original climate adaptation planning proposal included:

- Reporting on "n-1" resilience modeling,
- Modeling the expected effects of a multiple-day cold snap or heat wave,
- Assessment of vegetation management, and
- The potential implications of cascading blackouts.

In Final comments, Staff additionally points to PGE's climate adaptation plan, which was based on Staff's request for PGE to:

- Prepare a comprehensive report of climate change planning activities,
- Explain how PGE is incorporating the risks of climate change into its planning;
- Describe what climate change adaptation and mitigation actions PGE is conducting on its own behalf and on behalf of is customers, and
- [Complete] a report on any climate change-centered customer engagement activities PGE is currently undertaking.

Staff notes that recent Executive Order No. 20-04 in Oregon requires the PUC to evaluate “risk-based wildfire protection plans and planned activities to protect public safety, reduce risks to utility customers, and promote energy system resiliency in the face of increased wildfire frequency and severity.” The PUC is also directed, as a state agency, to ‘prioritize actions that will help vulnerable populations and impacted communities adapt to climate change impacts.”

**Staff Recommendation:**

- **Direct PacifiCorp to include a climate adaptation plan in a future IRP.**

Conclusion

Staff appreciates the thoughtful participation of all parties and commentators to this docket, as well as the Company’s responsiveness to stakeholder feedback throughout the IRP development process. Staff commends PacifiCorp on a long-term plan that makes substantial progress in technical analysis and thoughtful consideration of planning issues needed to provide reliable power to customers affordably on a modern grid.

**PROPOSED COMMISSION MOTION:**

Acknowledge in part and decline to acknowledge in part PacifiCorp’s 2019 Integrated Resource Plan and adopt certain actions and additional requirements for inclusion in future resource acquisitions and future IRPs.

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